



MEMORANDUM

TO: Rob Collins, NRDP

CC: Bill Kirley, Keith Large DEQ

FROM: Doug Martin

DATE: October 27, 2011

SUBJECT: Stimson Cooling Pond Berm Removal

This memo concerns the extent of removal or the lack of removal of the Stimson cooling pond berm that extends into and constricts approximately 40% of the Blackfoot River upstream of the confluence of the Blackfoot and Clark Fork rivers. Stimson and the State of Montana agreed in the Administrative Order of Consent that the cooling pond berm (rip rap and crib material) would be removed to native alluvium. No elevation of removal depth was stated in the AOC or the associated work plan.

The current site conditions reveal that angular rip rap (and concrete) and crib material still exists within the Blackfoot River along the alignment of the cooling pond berm, evidence that the berm was not removed to a depth of native alluvium. Note: native alluvium is not angular.

The presence of the angular rip rap, concrete, and crib material within the Blackfoot River is limiting the Blackfoot River from natural river function. The size, depth, and amount of angular rip rap with the presence of cribs filled with angular rock within the Blackfoot River is still constricting the Blackfoot River adjacent to the former cooling pond by the same extent, approximately 40%. The elevation to which the cooling pond berm was removed allows for higher flows to spread over a wider area than before during the spring high flows, but the existing rip rap and cribbing still in place interferes with normal river's sediment transport, vertical and lateral adjustment typical with this type of river system. It is the angular structure, size, and amount of rip rap along with the remaining cribbing within this section of the river that does not allow the thalweg of the Blackfoot River to move, even at the higher flows observed in 2011.

The State conducted three surveys of the Blackfoot River during the Milltown Restoration planning process. These surveys included particle size distribution along a reach of the Blackfoot River just upstream of the Stimson property. The largest size particles sampled during these three sampling events and making up less than one percent (1%) of the particles sampled were 1,100 mm (43.3 inches). The cooling pond berm material left in place is approximately 914 mm (36 inches) to 1,220 mm (48 inches). It is estimated that the angular rock left in place makes up more than 50% of the material and could be 100% as it is unknown what percentage and the amount of large angular rock exists below the existing surface. Regardless, the size and

amount of this material will constrict this reach of the Blackfoot River similar to the conditions that existed prior to any of the cooling pond berm being removed.

This issue has been reviewed by Fish, Wildlife and Parks resource managers as well as Gary Decker of WestWater Consulting, a hydrologist expert for the NRDP, they agree with the conclusions discussed above. I have attached five recently taken photographs which also support these conclusions. I would note that these photos, taken after spring run-off this year (2011), show the river's water elevation at higher than medium elevation. In the future if this material is not removed, the footprint of the berm will at times be completely exposed and the river's main channel forced entirely on the northern side of the berm.





